
THE VIRTUAL SPACE HIDDEN BEHIND A SOCIAL NETWORK

Jeannette Janssen, Dalhousie University

Part of the "big data" that reveal so much about us are the links we form in social networks. It is safe to assume that links are more often formed between people that have a lot in common. This can be modelled with a simple spatial model for link formation. Individuals are represented by vertices placed in a virtual space that represents their interests and characteristics. Links are formed stochastically, with links becoming less likely when vertices are further apart.

Is this spatial model accurate? And if so, what is the dimension of the space? This question can be addressed by using the new theory of graph limits; this theory defines the notion of a limit for sequences of larger and larger graphs with similar structure. I will show how graph limit theory can be used to recognize graphs that have a clear linear (one-dimensional) structure.